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AUTHOR Kaplan, Martin F.
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ABSTRACT

Application of a common framework in studies of the development of social cognition can reduce conceptual and methodological ambiguities and enable clearer study of core issues. This paper describes the core issues and their attendant problems, outlines a model of information integration that addresses the issues, and describes some illustrative experiments. Three core issues are: (1) Do progressions lie chiefly in values or in discrete stages? (2) Does progression proceed from greater use of preconventional, to conventional, to postconventional rationales, and is progression continuous or discrete? and (3) Does reasoning progress from simple to more complex forms of rationale use? Since any judgment requires integration of information about the target issue or person, and since each item of information can be assigned a scale value for morality, an integration rule can be used to combine information item values, with each element having some weight in the overall judgment. This model of judgment has implications for the core issues, and three studies show how this methodological and conceptual approach may unambiguously treat those issues. Findings have implications for designing and evaluating programs aimed at modifying reasoning, and for studying core issues related to moral stages. (RH)

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A PROPOSAL FOR STUDYING THE VALUES/REASONING DISTINCTION IN MORAL DEVELOPMENT AND TRAINING

Martin F. Kaplan, Department of Psychology, Northern Illinois University, De Kalb, Illinois 60115

Cognitive treatments of moral development pose a distinction between values and reasoning. Issues that emerge from the reasoning-stage conception are: Does progression lie chiefly in values or in reasoning? Is progression continuous or in discrete stages? Does progression proceed through a sequence of preference for certain rationales for moral choices? Does reasoning progress from simple to complex forms of rationale usage? Unfortunately, answer to these questions is clouded by conceptual ambiguities in the value/reasoning distinction, confounds in assessing the two, and pitfalls in relying on retrospective reports of subjects' rationales for choices.

Social cognition concepts and methods can reduce these ambiguities. Moral choice and judgment is seen as a matter of information integration. Each item of information has a scale value for morality. An integration rule is used to combine information item values, with each element having some weight in the overall judgment. Values are equated with the first parameter, and reasoning with the latter two. Rather than indicate reasoning by retrospective reports, Ss respond to different configurations of potential rationales in choice scenarios. Three studies show how this methodological and conceptual approach may unambiguously treat core issues. They found that (1) a typical paper-pencil assessment of reasoning stage likely taps values, not reasoning, (2) a traditional moral education program inculcated values but did not advance reasoning, and (3) complex moral reasoning can be induced by displaying complex solutions for nonmoral judgment tasks, thereby avoiding inculcating values. Findings have implications for designing and evaluating programs aimed at modifying reasoning, and for studying core issues related to moral stages.

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A PROPOSAL FOR STUDYING THE VALUES/REASONING DISTINCTION IN MORAL DEVELOPMENT AND TRAINING

One paradigm in moral development research is moral choice, in which Ss choose between alternative actions in a moral dilemma. The distinction is often made between values and reasoning. The former refers to the moral worth of alternatives, outcomes, amd choices, and the latter to the relative importance of the rationale(s) and outcomes that determined the moral choice. It is generally contended that development is marked by an orderly progression through stages in reasoning, though there is disagreement on what rationales constitute various stages, e.g., the debate between Kohlberg, Gilligan and others. Reasoning level is typically determined by interview (or paper-pencil surrogate), where Ss disclose which rationale(s) most influenced choice. Several issues emerge from reasoning stage conceptions. Does progression lie chiefly in values or reasoning? Is progression continuous or in discrete stages? Does progression proceed through an orderly sequence of preferences for certain rationales? Does reasoning progress from simple to complex forms of rationale usage? Unfortunately, answers are clouded by conceptual ambiguities in the value/reasoning distinction and confounds in assessing both, and by problems in relying on retrospective reports of reasoning. I believe that application of a common framework in social cognition can reduce conceptual and methodological ambiguities and enable clearer study of core issues. This paper will (a) describe the core issues and their attendant problems, (b) outline a model of information integration that is intrinsically concerned with these issues, and (c) describe some illustrative experiments.

Paper presented at the biannual meetings of the Society for Research in Child Development, Kansas City MO., April, 1989.

The first issue is, does moral reasoning level lie in the "moral value" of the chosen alternative, or in the maturity level of the S's rationale for the choice? The consensus seems to be the latter; it is the reasoning behind the choice that indexes hierarchical developmental stage. Preconventional reasoning emphasizes external rewards and punishments as rationales for choices. Conventional reasoning refers to acceptance of rules and expectations of significant others, and Postconventional reasoning is based on internalized principles of ethical behavior or abstract conceptions of justice.

Second, is reasoning level hierarchical, i.e., do people progress with age to higher level stages? There is considerable controversy over whether Kohlberg's stages correctly represent an ordering in terms of maturity for all people (e.g., Gilligan), and whether one may function simultaneously at several stages or even retrogress once a stage is reached. A related question is whether stages are discrete or continuous. Is one conventional to one degree, and postconventional to another, or is reasoning a typology?

Third, do people progress developmentally from simple to more complex reasoning processes? Piaget's work in cognition and problem solving suggests the progression from consideration of choice components singly and as universal absolutes (moral realism or heteronomous morality) to relativistic reasoning (autonomous morality) where importance of a particular element depends on the configuration of other elements. In short, several sources have posed a hierarchical progression toward more complex or contextual relationships between inputs.

Tests of these questions have not always been empirical, but often border on the philosophical. And, conceptual and methodological problems have clouded empirical tests of the issue. Some examples include:

1. The crucial distinction between values and reasoning is muddied by the fact that choices in dilemmas (values) are confounded with rationales. Also,

some choices are naturally associated with higher level rationales.

Clearer operationalization of value and reasoning are needed.

2. Present techniques and concepts do not easily allow for reasoning progression in degrees (continuous) but see transition from one stage to another as all or none (discrete). Dichotomous choice or scoring of rationales loses the subtleties of degrees or mixtures of rationale usage. Thus, one cannot uncover configural usage nor test for progressions in complexity.

3. Concern for reasoning centers only on the predominant reason for a choice, and ignores the patterning or potential complexity of usage.

4. Reasoning is assessed by retrospective reports of considerations, which may be inacurate due to social desirability, rationalization, fluency level, and ignorance of one's thought process. People cannot accurately reconstruct their reasoning processes.

In sum, I identify three core issues that require more careful conceptualization and methods than presently used:

1. Do progressions lie chiefly in values or reasoning?
2. Does progression proceed from greater use of preconventional, to conventional, to postconventional rationales? Is progression continuous or in discrete stages?
3. Does reasoning progress from simple to more complex forms of rationale usage?

Information integration theory is based on a clear distinction between values and reasoning. Any judgment requires integration of information about the target issue or person. Each item of information has a <u>scale value</u>, or quantitative position on the judgment dimension. Depriving an inventor of his profits, for example, has a low value on the dimension "Should...should not steal the drug", and saving a life by doing so has a high value. Each item

also has a weight, which reflects its importance or contribution to the judgment. Postconventional reasoning implies a higher weight for the latter information. Weighted scale values are aggregated according to an algebraic integration rule which could vary in complexity. Values could be simply averaged, or configurally weighted so that the importance of one element ("I'll be caught and punished") depends on another ("A life will be saved").

This model of judgment has implications for the core issues. Differences between groups and stages in values would be reflected in scale value differences and in preference for outcomes. Differences in reasoning would be reflected in different weights and integration rules. Scale values and weights are quantitative and so they exist in degrees, enabling placement of people on a continuum of reasoning or values rather than lumping together in discrete stages. Finally, integration rules can be assessed for degree of complexity. This manner of thinking about developmental issues can best be seen by referring to a series of experiments that compare the reasoning and values of (a) groups of Ss assessed at different stages by conventional means, and (b) groups that have been trained by conventional and other means to function at higher reasoning levels.

Empirical Work

This work does not rely on retrospective reports, but observes the choices made when different rationales are present or absent in a situation and infers the relative use and patterning of reasoning elements from the strength and pattern of choice made in the presence or absence of different elements. Also, presence or absence of rationales of different levels is factorially varied. This permits assessment of the locus of developmental progressions. If the locus is values, there will be differences in the choices; if rationales, in the main effects for rationale type. Complexity would be reflected in interactions between rationales. Finally, this procedure

allows different degrees of rationale usage to emerge, and does not assume a discrete stage structure.

Three expectations were studied in the experiments. First, persons located at different reasoning levels would not differ in their choices. Second, they would differ in the weight assigned to different information (rationale) components. Third, higher level persons would show a more complex integration strategy. A similar set of expectations applied when studying the effects of intervention techniques aimed at advancing moral reasoning level (moral education). Trained people should not differ from untrained in their choices, but should put more weight on postconventional and less on preconventional rationales than untrained persons. They should also show more complex integration rules. Three experiments dealt directly with the moral choice paradigm, and the fourth studied the training of complexity in a nonmoral, social judgment task.

Experiment 1.

College students functioning either at the preconventional, conventional, or postconventional level according to the Rest Defining Issues Test indicated on a 20 point scale their strength of belief that an individual should or should not engage in a target act (e.g., "steal the drug") in several different dilemmas. These were modifications of those commonly used in assessing reasoning level (but not used in the assessment of these subjects). In each dilemma, PR, CO, and PO rationales were given in the form of potential outcomes. Each rationale was given a likelihood of occurance, in the form of: "there is a (high, 50/50, low) chance that...". For example, "there is a 50/50 chance that family and friends will believe that Heinz was doing his duty as a husband in stealing the drug" gives a medium value, conventional rationale for stealing the drug. There were 27 such dilemmas, constructed from a factorial

design with three likelihood levels for the three rationale types. Pretesting disclosed that in each basic scenario (e.g., Heinz), one of the outcomes was normatively considered more moral than the other (e.g., steal > don't steal the drug). Responses were scored so that a higher score reflected stronger preference for the normatively more moral outcome.

Figure 1 plots ratings by the three subject groups for each rationale, collapsed over other rationales. Three conclusions are noteworthy. First, for all Ss, PO rationales were weighted most, as shown by the greater slope of the curves in panel C. Second, there was no tendency for any S group to be more influenced than other groups by rationales appropriate to its assessed reasoning level. For example, CO Ss do not show a greater slope for variations in CO rationales than do other groups (panel B). Statistically, there were no group by likelihood level interactions for any of the rationales. Third, groups did not differ in the complexity of rationale integration; patterns of combination of of pairs of rationales were similar for all groups, and the groups by rationales by likelihood levels interaction was nonsignificant. So, groups were similar in how they reacted to different combinations and contexts of rationales and their likelihood of occurance. Contrary to developmental notions, the groups did not differ in weight assigned to any given rationale when they chose a particular action. Nor did they differ in the complexity of integration of rationales. But they differed in one important way: Students at higher reasoning levels had higher scores on the choices, as shown in the relative height of the curves in all panels (note that PO Ss had the highest curves). So, higher scores on the DIT do not reflect a greater tendency to rely on postconventional rationales or to be more complex, but instead predict a tendency to chose moralistic outcomes more strongly, a difference in <u>value</u>, not in <u>reasoning</u>. The DIT may confuse values and reasoning.

Experiment 2.

Attempts at moral education in the classroom purport to advance reasoning level without inculcating vales. If this is so, typical training should affect relative weight of rationale elements and complexity of integration, but not values, or strength of choice. Eight moral dilemmas were constructed from the scenarios used in the DIT and in standard Kohlbergian interviews. Scenarios were slightly revised to accomodate a 6th grade reading level. For each scenario, eight variations were devised varying the likelihood that a PR, CO, or PO consequence would occur if one of the actions would be chosen. In any scenario, there was reported either a high or low likelihood that each type of rationale (all three were given) would occur. These considerations were worded so that in half the scenarios a high chance of occurance would argue for the less normatively preferred action, and in the remaining half, a high chance would favor the more normatively preferred action. In this manner, each scenario was the basis for a 2^3 design of high and low likelihood of PR, CO, and PO considerations. Eight sets of booklets were arranged by cyclical permutation so that each booklet contained a complete design of the eight combinations of PR, CO and PO considerations, one combination to each scenario. Across the eigth booklets, each basic scenario was ultimately paired with each rationale possibility. In short, combinations of PR, CO, and PO likelihoods were balanced across the eight scenarios.

Subjects were 128 freshmen in an Illinois High School. Half were tested immediately after completing a mandatory training course in moral decision making, patterned after the training devised by the Kohlbergians. Half were tested prior to taking the course. Sexes were equally distributed within the two groups. The course consisted of a one week series of daily sessions in which decision making in value oriented situations were discussed with the goal of thinking about the components and processes in such decisions.

Each booklet was evaluated by 8 students from each of the trained and control groups. Order of scenarios within each booklet was randomized. Students indicated how strongly they felt the character should engage in the alternate acts on a 20 point scale (e.g., "Should not steal the drug (1)....Should steal the drug (20)"). Once again, pretesting found that in each scenario, one action outcome was morally preferred over another. On a 20 point scale, the degree of preference ranged from 12.55 to 14.47 (M = 13.33). So, half the scales provided the morally preferred alternative on the left, and half on the right. Further care was taken to balance scale position of the alternative given under (1) or (20) with affirmative or negative wording. By reversing the score of half the responses, higher scores reflected more moralistic (normatively preferred) choices.

Figure 2 plots pairwise comparisons of rationales. The left panel, for example, plots preferences for the target action given high or low likelihoods of conventional rationales (ordinate) paired with high or low preconventional likelihoods (abscissa), collapsing over postconventional levels. Trained students differed from controls in two ways: They responded more strongly in the direction of the moralistic choice (higher scores in all panels and a main statistical effect for training), and showed less configuration in considering rationales (lack of statistical and graphical interaction in the curves for trained students, and all three possible interactions for controls). There were no group differences in the effect of any of the rationales, that is, the groups responded similarly to each of the three rationale types (no groups by likelihood interaction for any of the rationales).

Trained students were not more influenced by PO rationales, and were not less influenced by PR rationales, than controls. <u>But</u> they were less contextual in reasoning, and more moralistic in values! These findings reverse claims for moral education. Training did not advance the use of more mature rationales

nor did it instill more complex reasoning. In fact, trained students were absolutistic in their reasoning, but students unhampered by training were relativistic. Training led to retrogression in reasoning. It also inculcated values, in the sense of strengthening the normatively moral choices.

There are implications here for moral training programs that are beyond the scope of this paper, but the point should be made that programs purporting to separate the training of values and reasoning ought to evaluate via the systematic means employed here what they are accomplishing. At the same time, a means of separating values and reasoning during training is needed, and could be modelled after the procedures used in this experiment. The third experiment is such an attempt.

Experiment 3.

Students in two sections (N = 64) of a H. S. freshman speech course comprised the training group, and a similar number of students in other sections were controls. Training consisted of four one-hour sessions of reasoning training on consecutive days. In each session, a different judgmental task was used for illustrating first simple and then complex integration strategies. Tasks were nonmoral in nature, and included: (1) deciding how likely one would be to help a student by serving in an experiment, (2) Judging guilt of a student accused of cheating, (3) Assigning a sentance to a defendant convicted of car theft, and (4) attributing suspiciousness in a murder case. All had been previously found in research to yield nonconfigural averaging by Ss. In each session, students first made their judgments, and the experimenter then described how students often use a simple integration rule to combine the two elements in the task. She went on to describe and illustrate more complex integration, guiding discussion toward configural solutions by using an Analysis of Variance model. After the classes

seemed to understand the principle, they retook the task.

On the fifth day, students completed the eight moral dilemmas without discussion. Controls responded to the four prior tasks without discussion (again, on consecutive days) and to the moral dilemma task on the fifth day.

The training of complex integration transferred to reasoning in the moral dilemmas. Figure 3 shows the pairwise comparisons between rationales. All three panels (comparisons) show statistical and graphical divergence for trained students; a high likelihood of any one rationale being present increased the impact of other rationales. For example, if there is a high likelihood that peers will approve the more moral act (right panel), then likelihood of a principled rationale matters more. In two of the three pairwise comparisons for controls, no divergence was found.

Unlike the standard program in Experiment 1, trained students did not uniformly choose the more moral alternatives. Thus, the Analysis of Variance analogue training did not induce values, but did modify integrative reasoning.

One of the main ideas here is that cognitive processes are not unique to moral reasoning, but are general for any sort of social judgment, and probably apply to nonsocial judgments as well (e.g., mathematical tasks). One instance of such structural parallelism is the finding that complex reasoning training in social judgment tasks transferred to moral dilemma choices. The next experiment used the same techniques to train complexity in a nonmoral task that is prominent in the cognitive development literature.

Experiment 4.

Classical theory and empirical research show Ss'predictions of achievement to be a joint function of the target's ability and effort. The cognitive rules by which the two are combined are a matter of question. Though theory suggests a multiplicative rule, research most often favors averaging. Use of the simpler strategy of averaging versus the more complex

multiplicative may be a matter of cognitive development. Another question arises concerning the reversibility of rules. If a certain rule is used in a given task (e.g., Achievement = Ability X Effort), one should be able to reverse the rule when drawing the reverse inference (e.g., Ability = Achievement/Effort). There is reason to believe that ability to reverse rules is also developmentally related.

High school freshmen and College students were assigned to one of three groups: Training, self-cuing, and control. In the first session, all were given information about a target person's above or below average ability and above or below average effort in either academic or sports performance, and asked to predict achievement (thus, a 2 X 2 design of input). Training Ss were led in a discussion designed to increase multiplicative consideration of ability and effort, using the ANOVA row X column factorial design analogue. Controls were led in extraneous discussion, and self-cuers were asked to write explanations of the rules they had used. The same process was repeated in a session on the second day, but with the scenario (academics or sports) reversed. On the third day, all Ss judged targets on all three dimensions, given information (above average, average, or below average) about the remaining two dimensions for each judgment. They were also asked for their assumptions about the relationship of effort to ability given variations in each for the same constant achievement.

Figures 4-5 show the achievement predictions for the different age and treatment groups when given different levels of ability and effort. Only college students who were trained used multiplication in combining cues; High school students did not benefit from training, and no Ss spontaneously multiplied as a group. Multiplication is shown by significant divergence of row X column curves.

Turning to judgments of ability (Figure 7-8), college students who were

trained to multiply showed reversibility, that is, they divided (converging, downward sloping curves) when judging ability from achievement and effort. No other age or treatment group divided (parallel curves). Similar observations may be made for the judgments of effort from achievement and ability information (Figures 10-11). Looking within treatment groups at those Ss who had used a multiplicative rule when judging achievement, only the college students spontaneously reversed the rule. High school students who had multiplied did not show the inverse relationship between achievement and effort required by dividing; in fact, they assumed a direct relationship. In short, high school students were unable to adopt a reversible causal schema for multiplication even when trained.

On the basis of Ss' self-reported assumptions about whether ability is fixed or grows with increased effort, we concluded (1) the older group conceives of ability as a fixed trait, and this facilitates transfer from a trained rule to the logical extension of a reverse rule, and (2) adolescents benefit less from training in complex rules, and less likely to transfer skills because they either assume ability varies with effort, or if they do not make this assumption, are unable to put their belief about ability to use.

Concluding Comments.

The general point is that one may clearly investigate central issues in both moral and cognitive development by adopting a common and unifying conceptual framework that focuses on the values, weights, and integration strategies for component information, and by using methodology that follows from this framework. Further examples could be given in the paradigms of distributive justice and moral judgment of acts, but enough is enough for now.

Suggested Reference: Kaplan, M. F. (1989). Information Integration in moral reasoning: Conceptual andmethodological implications. In N. Eisenberg, J. Reykowski, & E. Staub (Eds.) Social and Moral Values: Individual and societal perspectives. Hillsdale NJ: L. Erlbaum.

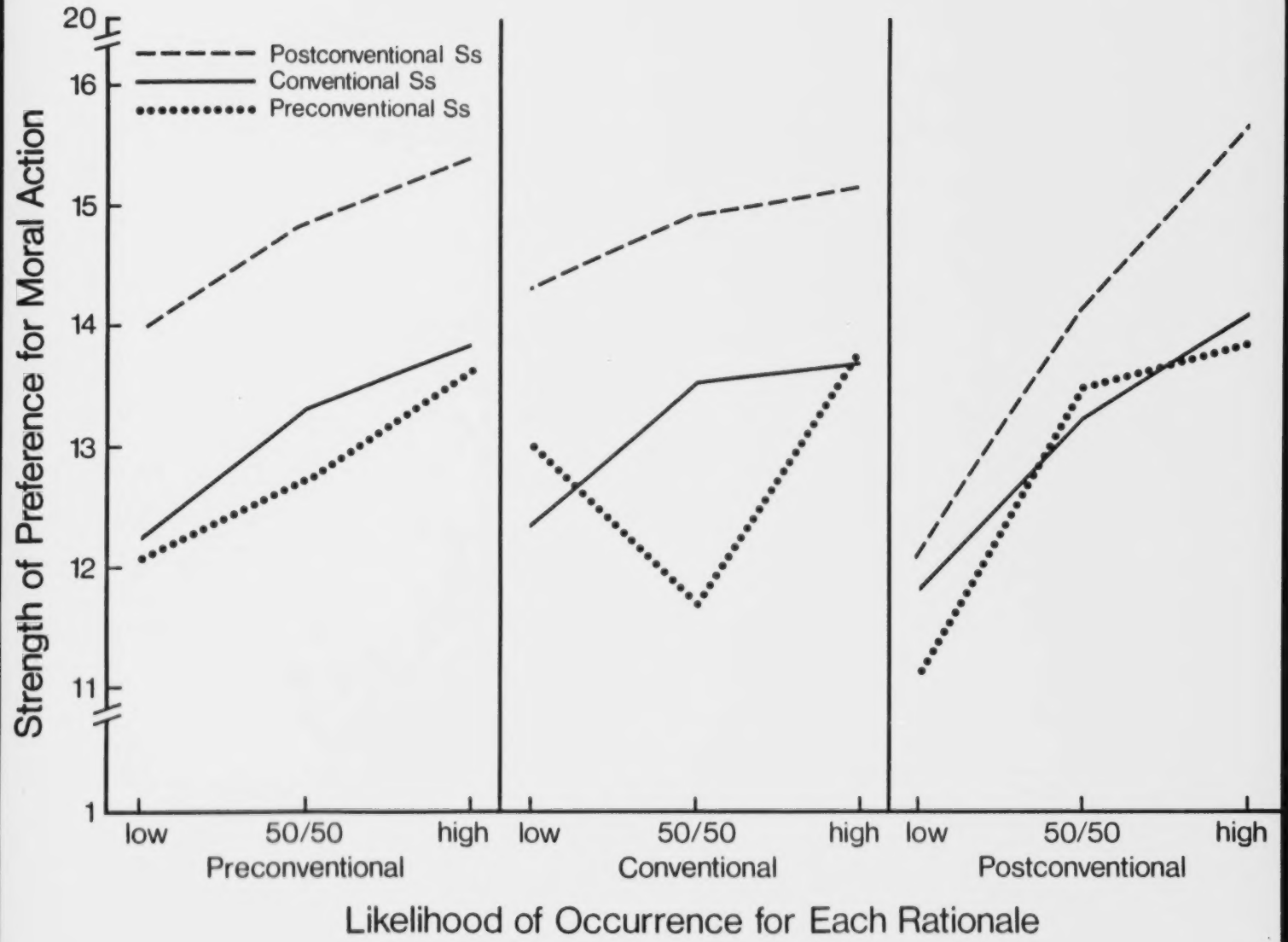

Postconventional Ss
Conventional Ss
Preconventional Ss
Strength of Preference for Moral Action
20
16
15
14
13
12
11
1
low
50/50
high
Preconventional
Conventional
Postconventional
Likelihood of Occurrence for Each Rationale

FIGURE 1

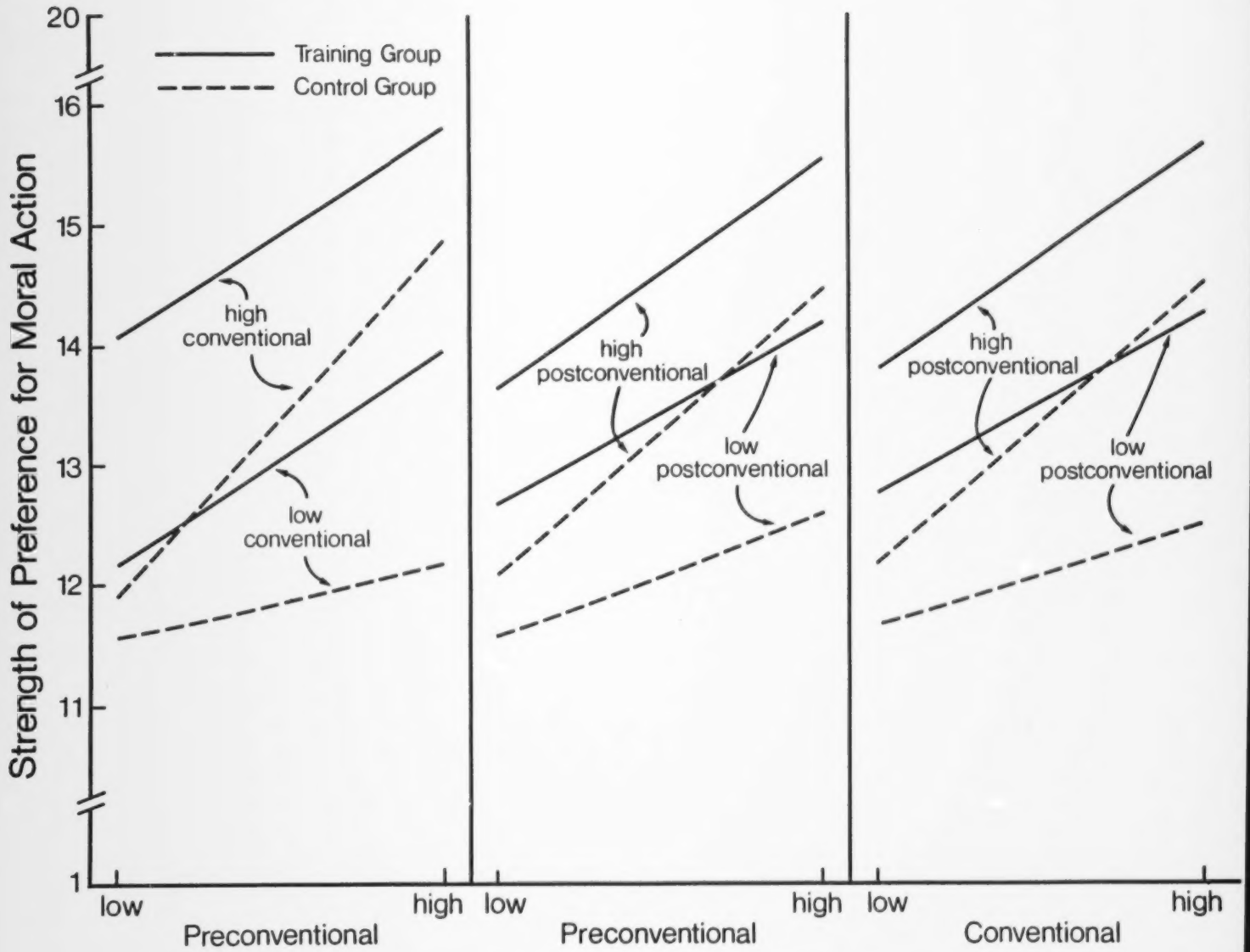

20
16
15
14
13
12
11
1
Training Group
Control Group
high conventional
low conventional
high postconventional
low postconventional
high postconventional
low postconventional
Strength of Preference for Moral Action
low
high
Preconventional
low
high
Preconventional
low
high
Conventional
Likelihood of Occurrence for Each Rationale

FIGURE 2

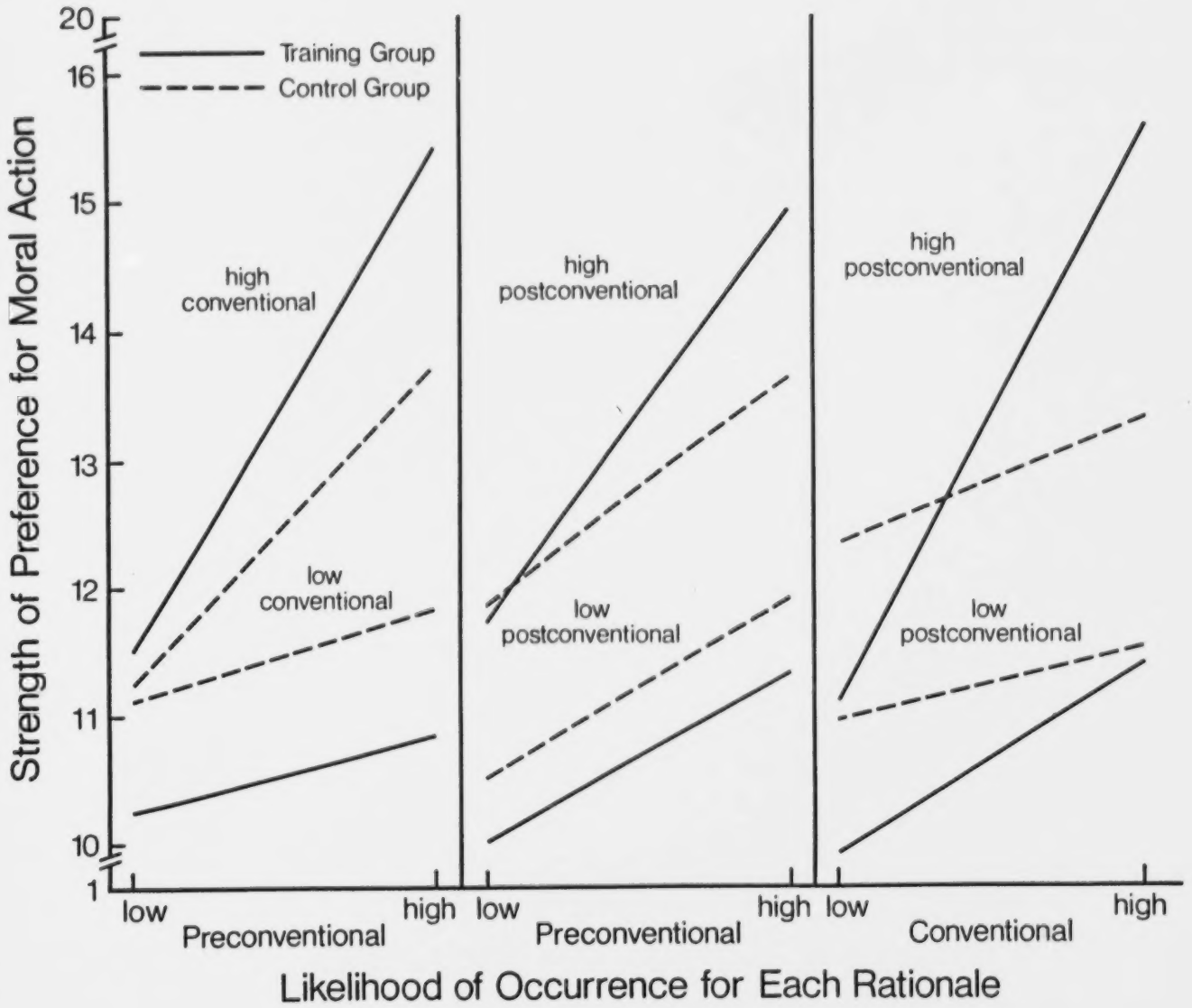
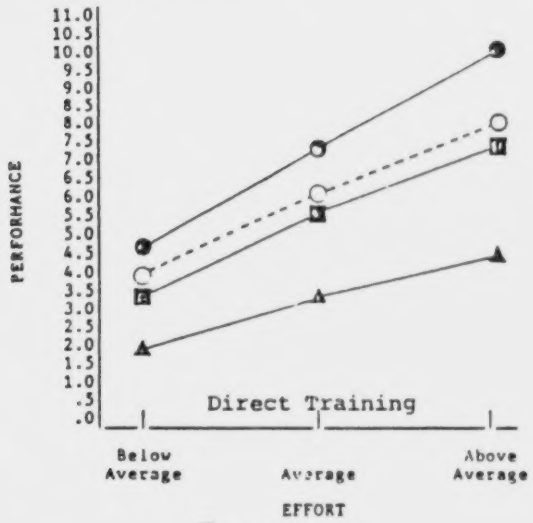
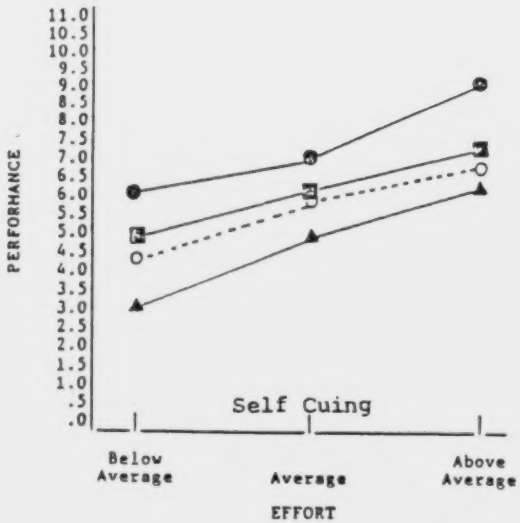

Strength of Preference for Moral Action
20
16
15
14
13
12
11
10
1
Training Group
Control Group
high conventional
low conventional
high postconventional
low postconventional
high postconventional
low postconventional
low
high
Preconventional
low
high
Preconventional
low
high
Conventional
Likelihood of Occurrence for Each Rationale

FIGURE 3

Performance as a function of Effort and Ability

A. College Students





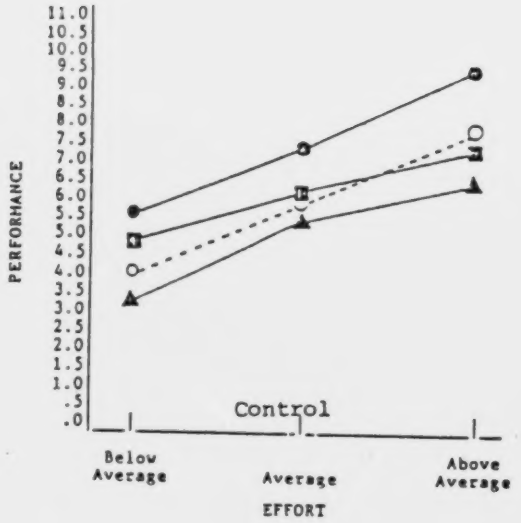
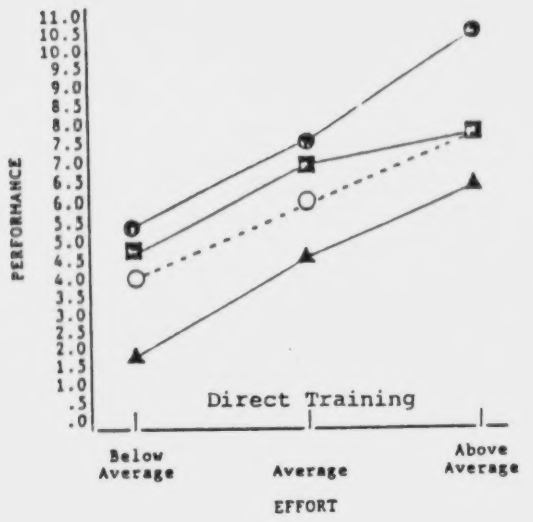
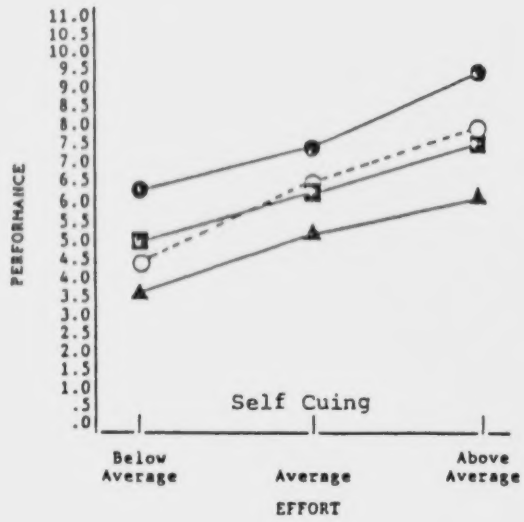


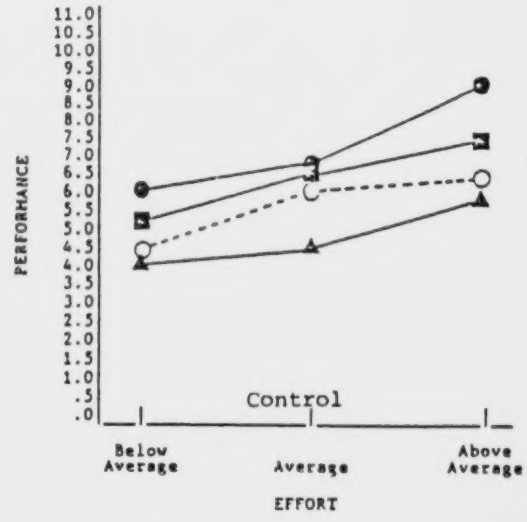
FIGURE 4

FIGURE 5

B. High School Freshmen



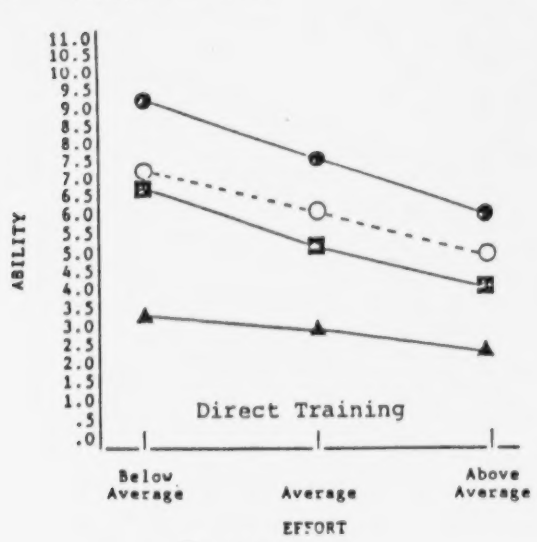


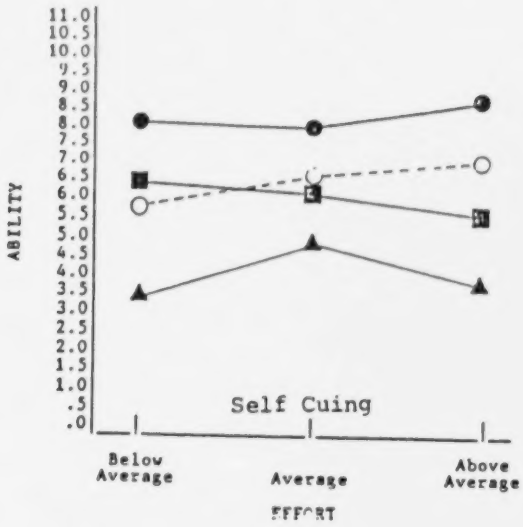


Note. ● represents Above Average ABILITY
■ represents Average ABILITY
▲ represents Below Average ABILITY
O----O represents Single Cue Judgments

Ability as a function of Performance and Effort

A. College Students





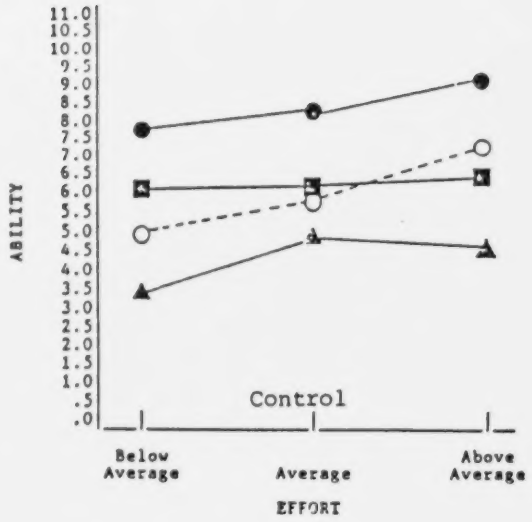
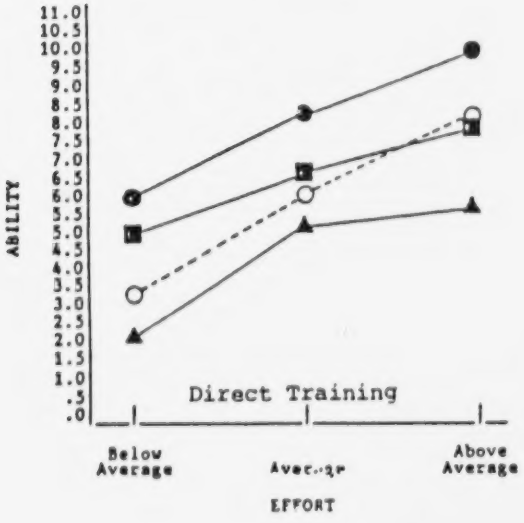
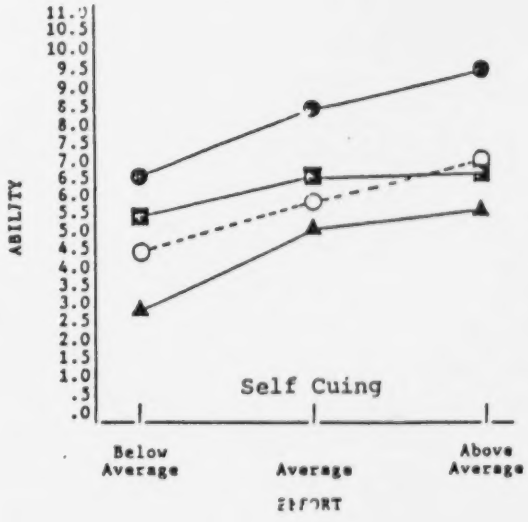


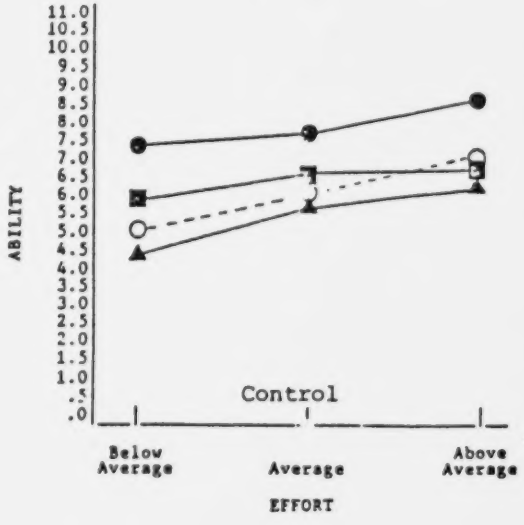
FIGURE 7

FIGURE 8

B. High School Freshmen







Note. ● represents Above Average PERFORMANCE
■ represents Average PERFORMANCE
▲ represents Below Average PERFORMANCE
O----O represents Single Cue Judgments

Effort as a function of Performance and Ability

A. College Students

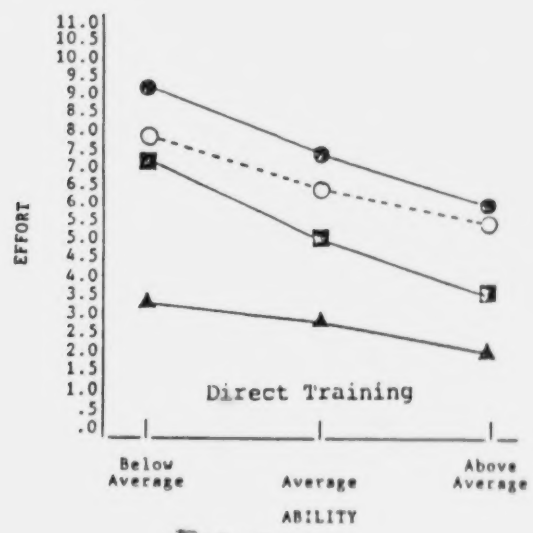
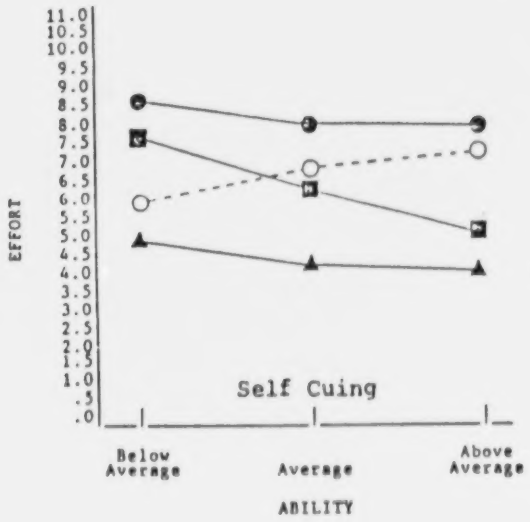


FIGURE 10



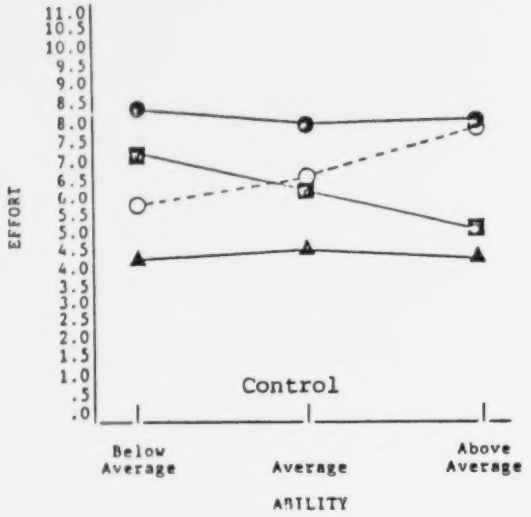
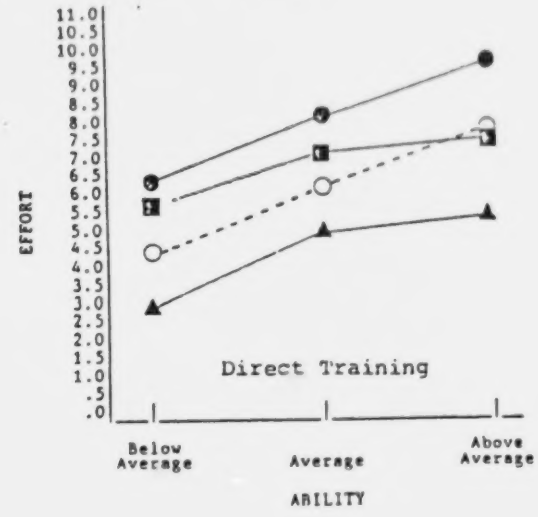
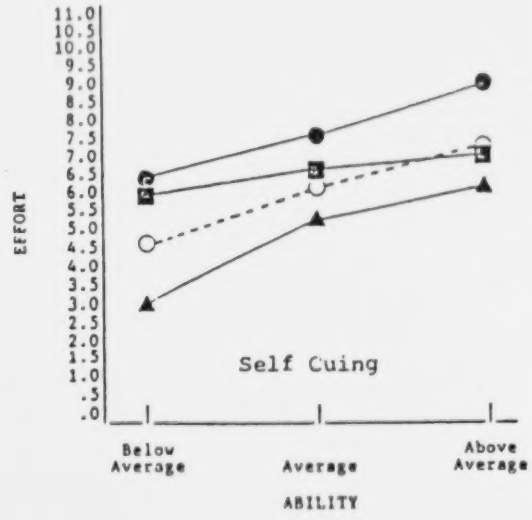
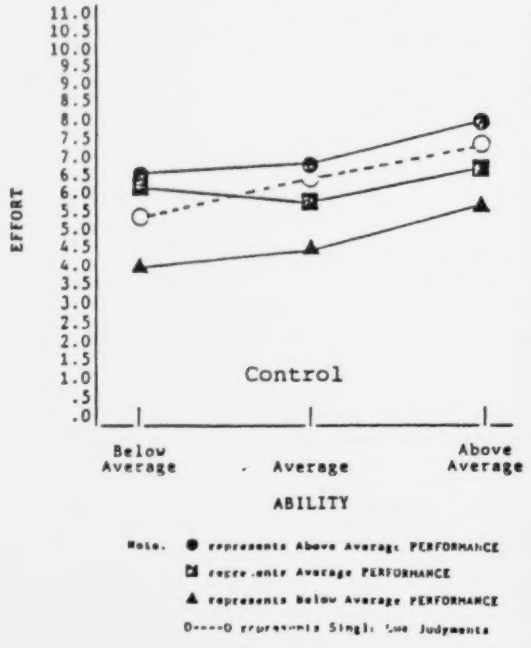


FIGURE 11

B. High School Freshmen







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